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## EXPLOSIVES.

THE numerous outrages which have of recent years been committed by means of explosive compounds, as well as the many accidents which have taken place in their manufacture, conveyance, and use, have produced a general, though probably an undefined feeling of uneasiness in the public mind regarding such compounds. We believe nothing will conduce so much to allay this feeling of danger in the legitimate use of these explosive compounds, as a knowledge of what they really are; and we purpose, therefore, in the present article to notice very shortly the preparation, composition, and chemical and physical properties of the more important of them. Explosive compounds, though very numerous, are but limited in their origin; that is to say, the oxidising or explosive tendency of one or two substances is so modified or increased in various ways, and by means of various mixtures of what may be called secondary substances, as to produce the almost endless variety of explosive compounds known at the present time.

For our immediate purpose, it will be sufficient that we divide these various compounds into two classes—namely, those explosive mixtures obtained by combining nitrate or chlorate of potash with different combustibles; and those explosive chemicals obtained by the action of nitric acid upon substances of organic origin. Of course, outside of either class are many explosive compounds, known chiefly in the laboratory of the chemist, such as the iodides and chlorides of nitrogen and the fulminates of mercury—used for priming percussion caps—and silver; but none of these, or others which might be mentioned, are known commercially; and certainly the majority of them have never been applied to any useful purpose, nor have they ever been named, so far as we are aware, in connection with any recent accident or outrage, so that we may dismiss them from the category of ordinary explosives. Many of these chemicals are, however, very explosive, the chloride of nitrogen,

for example, exploding with fearful violence at ordinary temperatures if it comes into contact with almost any combustible, particularly of a fatty nature; while fulminate of silver, for instance, explodes even when in the moist state on the least friction; and when dry, the touch of a feather is said to be sufficient to set it off. Practically, this very susceptibility to decomposition places such chemicals beyond the possibility of using them for any of the ordinary purposes for which explosive agents are generally required, and this of itself puts a bar upon their manufacture, even where the risks are very much less than in the cases mentioned. There is, moreover, another element which operates, though probably in a less degree, to keep the majority of such dangerous chemicals within the confines of the laboratory—namely, the cost of their production. Compared with those which we are about to consider, they, in short, present all the disadvantages of extra risk and cost in their manufacture, without a single compensating advantage in return.

When nitrate of potash or chlorate of potash is intimately incorporated with such substances as the prussiates of potash, or sugar, or starch, or flour, &c., a species of gunpowder is produced. Some of the substances named, probably all of them, when in a minute state of subdivision, and the particles suspended in the atmosphere, form an explosive element if they come into contact with an open flame. This, in fact, finds illustration in the way in which sheet-lightning is frequently simulated in our theatres, where lycopodium powder—the fine spores of a species of moss—is thrown into the air, and made to burn with a bright flash; and probably also accounts for many an explosion in flour-mills and factories. Such substances, however, it will readily be understood, are not in the mass explosive. They may be subjected to any amount of friction or concussion, or a lighted match may be applied to them, without any result whatever. When mixed, however, with either of the potash salts mentioned, and particularly the

chlorate, a compound is obtained, violently explosive under friction, concussion, and heat. Such compounds have frequently been named white gunpowder, German gunpowder, and other fanciful names, according to the various ingredients, or the relative proportions in which the ingredients are made to enter into the compound.

It would be tedious, and would, besides, answer no useful purpose, to enter into a description of all the potash compounds which have from time to time been manufactured or suggested. Much ingenuity has been expended in attempts to produce mixtures combining the maximum of explosive force with the minimum of risk. In addition to the substances already mentioned, they have been combined with spent tan, with sawdust, with resin, and with various other substances; and they have also been produced in a variety of forms, such as in pellets, discs, and cylindrical balls; but in every case with questionable advantage. They are at the best a hazardous set of compounds, being liable in many cases to spontaneous combustion, exploding with the least friction or concussion; and in the case of the chlorate of potash compounds, unable to resist the decomposing effect of the slightest trace of free acid. Ordinary gunpowder, it need scarcely be mentioned, belongs to this class of compounds, the charcoal entering into this compound supplying the place of the combustibles in the mixtures just referred to. In this case, next to the proper apportioning of the three ingredients entering into its composition, very much depends on their intimate trituration in the moist state, and subsequent granulation, for obtaining the maximum explosive effect. Chlorate of potash cannot be substituted for the nitrate in a mixture of this kind, as it forms a dangerously explosive compound with sulphur. This may be shown by briskly trituring a small quantity of each in a mortar, when the probability will be that they will explode in the process.

The second class of explosive agents mentioned—namely, that obtained by the action of nitric acid upon substances of organic origin—are a much more important class, not only because they are now in several cases extensively employed as invaluable aids to mining, blasting, and other operations of a similar kind, but also because they are in many cases largely used in the arts and sciences. They are all closely connected in their chemical constitution, though differing very materially in their physical characters. Picric acid, for example, one of the first discovered products of this kind known to possess explosive properties, occurs in crystals of a beautiful light yellow colour, and is now extensively used as a cheap but useful yellow dye. It was originally obtained by the action of nitric acid on indigo; but is now commercially manufactured either from coal-tar oils or impure phenol, a coal-tar product better known as carbolic acid. When nitric acid is added to impure carbolic acid, a very violent reaction immediately takes place. On this first action ceasing, more nitric acid is added, and the mixture this time heated, to quicken the process of decomposition. On cooling and washing with water, to remove excess of acid, a yellow, intensely bitter mass is obtained, consisting of impure picric acid, known also as carbazotic

acid. This substance is explosive on percussion; but if mixed with nitrate and particularly with chlorate of potash, an exceedingly explosive compound is obtained, approaching in violence some of the more powerful explosive agents afterwards to be mentioned. This acid forms salts, such as picrate of potash and picrate of ammonia, which are also explosive, but which form much safer compounds with the potash salts named than the acid itself. Indeed, Professor Abel recommends a compound of picrate of ammonia and nitrate of potash as one of the safest explosive mixtures of the more violent kind yet discovered; and the same substance has frequently replaced nitrate of potash in continental gunpowders. Picrate of ammonia also enters largely into many pyrotechnic compounds.

Gun-cotton—technically known as pyroxylin—is probably the best known of all this class of compounds. It is prepared by immersing cotton in a mixture of weaker nitric and sulphuric acids, if a soluble cotton is desired; or of stronger nitric and sulphuric acids, if an explosive cotton is wanted, and afterwards washing it thoroughly in water. The former preparation, dissolved in ether and alcohol, is largely employed in surgery and photography; the latter is extensively used for blasting purposes and for gunnery. Cotton after its treatment with the acids, and subsequent washing and drying, to all appearance has undergone little external change. It has still all the appearance of ordinary cotton, although the regularity of its structure is lost to a considerable extent, and it has acquired a crisp heavy feeling which cotton does not possess. In the air, it burns with a flash, while ordinary cotton burns slowly. When exploded in a confined space, its force is variously estimated to range from two to eight times that of ordinary gunpowder, according as the substance operated upon forms a more or less resisting medium to its disruptive influence, and according also as it has been prepared with stronger or weaker acids, which materially affects its explosive properties. With several minor disadvantages, among which this variation in the explosive force of the gun-cotton is probably the most important, it certainly possesses many advantages over most other explosives, and particularly in this, that it may be stored in the wet state, in which condition it is practically harmless. Its exploding point in the dry state under given increments of heat varies; but it is seldom under two hundred and fifty degrees Fahrenheit. This it may be stated is considerably under gunpowder; but a gun-cotton explosive at this temperature is probably the exception, and three hundred degrees Fahrenheit may be considered as nearer the average.

Nitro-glycerine (also known as blasting oil), one of the most important, and one of the most powerful and dangerous compounds of this class, is produced by treating glycerine with a mixture of strong nitric and sulphuric acids at a low temperature. It is a heavy, yellowish, oily-looking liquid, freezing at a temperature between fifty and fifty-five degrees Fahrenheit, is powerfully explosive under all circumstances on the least friction or concussion, and is said to have a destructive power at least ten times that of an equal weight of gunpowder. The extraordinary disruptive force which it exerts

makes it well adapted for blasting purposes in mines and quarries; but its extreme susceptibility to explosion from friction, and spontaneous decomposition, cause its employment to be attended with considerable danger. In fact, not a few serious accidents, involving great loss of life and property, have occurred from its use, and under no circumstances can it be said to be free from danger in its commercial form. The very freezing of the compound, which, as we have mentioned, takes place at an unusually high temperature, is said to form one of the greatest sources of danger, from the fact, that the friction of the crystals in process of transport is sufficient of itself to cause explosion of the mass.

One peculiar feature of this substance is, that explosion of the mass will only take place on the application of heat in the event of the heat producing some chemical decomposition within the mass. A light may be applied to the surface of the nitro-glycerine, and it will burn with a flickering flame; the probability being that the flame would go out if the light was withdrawn. If the light, on the other hand, is inserted into the mass, or if it is applied so as to cause any disturbing or decomposing influence, not on the surface, but in the body of the mass, explosion will ensue. Nitro-glycerine has been known chemically for a considerable period; but it is only so recent as 1864 that Nobel, a Swedish engineer, first applied it to mining purposes. Since then, it has come extensively into use, and has been much identified with Mr Nobel's name. He discovered that by mixing it with wood-spirit it might be safely stored, being thus rendered non-explosive either by percussion or heat. From the spirit, it can again be recovered by the addition of water, which precipitates the nitro-glycerine. In 1867, Mr Nobel made the further important discovery, that its explosive tendency and powers were not reduced by adding to it other substances in themselves quite inert, while the addition of such substances in several respects made it safer for transport and use. This at once led him to produce a new compound, which he named dynamite.

Dynamite, it will be understood from this, is nothing more or less than nitro-glycerine with a certain amount of inert matter added, which changes somewhat its physical appearance, but not its chemical or explosive properties. Various substances have been added to nitro-glycerine, and fanciful names given to the mixture; but the substance originally added to it in the production of dynamite, and which has in every respect proved the best adapted for the purpose, is a kind of porous silicious earth, known in Germany as *Kieselguhr*. This substance absorbs the nitro-glycerine, so that when in the proportion usually adopted in its production—namely seventy-five parts of nitro-glycerine to twenty-five parts of *Kieselguhr*—the consistence and appearance of the dynamite approach that of newly kneaded flour without the adhesive properties. In short, this earthy substance does to the nitro-glycerine what blotting-paper does to ink; but inasmuch as the nitro-glycerine is of an oily nature, and requires to be in considerable excess, it was found that with increase of temperature, and under other circumstances, such as slight pressure, the nitro-glycerine was apt to exude from

the compound. To obviate this, dynamite has latterly been supplied in the form of cartridges, the formation of which permits a certain amount of pressure in their production, so that any excess of nitro-glycerine can be avoided, and the risk of explosion from the presence of free nitro-glycerine reduced to a minimum.

Mr Nobel imputes nearly all the calamities which have taken place from nitro-glycerine to leakage, it being almost impossible to prevent this, however perfect the cases are in which it is transported, the substance being so oily and penetrating; and he cites as an analogous case that of gunpowder being transported in cases dropping out continually part of their contents. This probably has something to do with many of the terrible catastrophes which have had to be narrated from time to time; but we are inclined to think that many of them have also been produced by the careless handling of a substance the dangerous nature of which was at least in the first instance but imperfectly understood. In this as in many other things, experience had to be gained, though unfortunately at a terrible cost; and the very fact that few accidents have occurred in the process of its manufacture compared with those in its transit and use, bears out in this opinion.

Mr Nobel, in a paper read before the British Association shortly after the introduction of dynamite, gives some very interesting information regarding both it and nitro-glycerine. We do not intend to review this paper, but we may be excused referring to several experiments publicly made with dynamite, to show that the opinion expressed in the paper of the comparative safety of dynamite as an explosive agent was fully justified. A box containing eight pounds of dynamite—equal to eighty pounds of gunpowder—was placed over a fire where it slowly burned away. Another box containing the same quantity was hurled from a height of more than sixty feet on a rock below, and no explosion ensued from the concussion. A still more severe test was that of dropping a weight of two hundred pounds from a height of twenty feet on a box of dynamite, smashing the box, and yet not exploding the dynamite. It is difficult to reconcile these experiments with the opinion popularly held regarding dynamite. We do not think we are exaggerating when we say that it is generally esteemed the embodiment of all that is dangerous and evil in such compounds. The truth lies probably midway between the two extremes. Dynamite it is certain will not always stand the extreme tests here stated; and from whatever cause, it must be admitted erratic results frequently have happened in the process of handling and using. On the other hand, that it is not so readily exploded as is currently supposed, may be granted, although we would hesitate to enforce this opinion, considering that public safety lies altogether in the former belief.

Both nitro-glycerine and dynamite are now extensively employed in mining and other operations of a similar kind; and owing to certain peculiar characteristics which we have not as yet mentioned, they are well adapted for all such purposes. When nitro-glycerine or dynamite, or any other compound having nitro-glycerine for its basis, is exploded, unlike gunpowder or the majority of other explosives, the effect of the

explosion is expended in the direction of those points in actual contact with the compound. Thus, if gunpowder was exploded on an iron plate in the open air, the disruptive effects would be nil; but if nitro-glycerine or dynamite was exploded under the same circumstances, the effects would be the indenting or shattering of the iron plate *downwards*. In the same way, a gun fired with nitro-glycerine would almost certainly burst, even though the quantity employed was not greater than that of an ordinary charge of gunpowder.

It will thus be seen how valuable this characteristic of the nitro compounds is when applied to blasting operations, and it will also at once explain how the tedious process known to miners as 'tamping' is rendered unnecessary. Tamping is simply the filling-up of the hole bored in the rock after the gunpowder has been introduced, so as to produce as much resistance as possible to the disruptive power of the gunpowder. The hole is filled with pieces of rock, sand, clay, and the like, and the whole beaten firmly together. In the case of nitro-glycerine or dynamite, however, tamping is not necessary; simple contact with the bottom and sides of the bore-hole being sufficient to produce the maximum disruptive effects. The mode of firing the compounds is exceedingly simple. They are introduced into the blast-holes in suitable cases; and a fuse, having a small charge of gunpowder at its extremity, is fixed immediately on the top of the compound, and the concussion produced by the exploding gunpowder explodes the nitro compound. The ordinary fuse or the 'straw' used in some blasting operations would be uncertain in its results, owing to the non-exposibility of the compounds under the application of an open flame.

Government have wisely set strict regulations upon the manufacture, sale, storing, and transport of all the explosives named, as well as the numerous compounds which they are made to form when mixed with each other. Recent events may necessitate regulations even more stringent. No government regulation can, however, secure freedom from carelessness, and this forms one of the principal causes of the majority of accidents. It cannot be too widely known that friction or concussion is in all these compounds to be avoided, and that the great majority of explosives are rendered positively harmless if placed in water.

## ONE FALSE, BOTH FAIR;

OR, A HARD KNOT.

### CHAPTER XV.—SEEKING LEGAL AID.

'If you will do it, my dear, of course you will,' said Sir Pagan to his sister, two days after the dinner in Bruton Street. He spoke impatiently, and perhaps roughly; but his heart was not a hard one; and his mood changed at once as he heard a low stifled sob in response to his petulant retort.

'I will do it. It is my duty and my right; and at any cost, I mean to carry it out,' was the slowly spoken answer of the golden-haired girl, whose face was half averted from him. 'Right is right, brother, even though you, too, turn against me.'

'I'd have given a thousand pounds'—blurted

out Sir Pagan, and then stuck fast in his unfinished speech, and blushed darkly red as he realised two facts—one the patent truth, that he had not a thousand pounds at his command; the other, that his hasty words might sound unkind. 'I, for one, won't turn against you; hang me, if I do!' said the baronet sturdily.

'And yet, Pagan, you never would really listen to me, never would be, as I had hoped you would, my champion and my friend, helping me—as you should—in the struggle, and'—

'Now, my dear, don't!' was Sir Pagan's almost piteous protest. 'Between you and—her'—he made a great effort here to suppress the word Clare, that was trembling at his gates of speech—'I'm not fit to be umpire. And yet, my girl, I mean to be kind, as a brother should. I'll speak to,' he added desperately, 'anybody. If Lady Barbara'—

'Lady Barbara will never acknowledge my right, until the strong hand of the law enforces it,' exclaimed the girl, with a sudden flush in her pale cheek. 'You mean well, brother; but I see that I must steer my own bark through these troubled waters.'

Sir Pagan was silent.

'I shall go, then, in the first case to Mr Pontifex, as I said,' she continued.

'Why not, if you must go to a lawyer at all, go to my man, as I advised?' asked Sir Pagan, with some sense of injury. 'Wickett isn't dear—for a lawyer, I mean—and gives a good deal for his six-and-eight, or his thirteen-and-four, in the bill of costs; whereas Pounce and Pontifex are people I should no more go to, if in trouble, than I should ask old Sir Joseph Doublefee, the Queen's physician, to feel my pulse. And Wickett is so sharp! If you have a chance with a jury—I mean in horse-cases and that—he'll take you up, and retain Beamish or some such shrewd dog, and get you a verdict, likely as not. But if you haven't a leg to stand upon'—

'I'm afraid, Pagan dear, I must manage my own matters in my own way,' was the mild, resolute reply; and Sir Pagan pulled out his watch.

'I'll tell James to have the brougham ready when you like to go out, C—sister,' blundered out the baronet, who had with difficulty enforced on himself the rule to call his nearly related visitor by no name, thereby preserving his own attitude of judicial impartiality, and also in the hope of avoiding a scene.

It was not very likely that he would return until it should be time to dress for dinner—should it be worth his while to dress, for his bachelor meal—at his club or elsewhere. Few men get less of good or comfort out of the houses for which they pay, grudgingly, ground-rent, rates, and taxes, and the bills of slaters and plumbers, than did Sir Pagan. But he had a dim consciousness that a baronet's house, like the tenement of the proverbial Englishman, is his castle, and stands him in as good stead as does the shell of the crab to its crustaceous owner. Had he given it up, and gone to dwell in chambers, or St James's Street lodgings, his credit would have gone down to County Court pitch, and the Society journals, so-called, would



have earned a pennyworth by scoffing at the fallen glories of the broken-down House of Carew.

As it was, Sir Pagan departed; and an hour later, or less, Sir Pagan's shabby brougham, with the Red Hand of Ulster blushing on its ill-painted panels, conveyed Sir Pagan's sister to the classic parlours of Lincoln's Inn. She had the address of Messrs Pounce and Pontifex by heart; and entering the stony court, and passing under the low-browed doorway, which frowned down upon her as it had frowned on many another pilgrim—on none, surely, so lovely as she was—timidly mounted the black oaken stair, and rang the bell appertaining to the legal lair of those illustrious magi of British, or at least English domestic law, of settlements, entails, wills, and remainders, Messrs Pounce and Pontifex. A very civil, decent sort of clerk, bald as a billiard ball, came to respond to her summons.

'Is Mr Pontifex within, or Mr Pounce?' faltered out the applicant for admission.

The clerk was an experienced clerk, and knew a lady when he saw one; but had Sir Pagan's sister been the poorest and most bewildered old woman who ever travelled by parliamentary train to London to prove her husband's will, good-natured Mr Jupper would have been patient and forbearing with her. 'Mr Pounce is not in chambers now, madam,' said the clerk, as indeed he might have said with perfect truth at most hours of every working-day, for the visits of old Mr Pounce to Lincoln's Inn were as rare as those of angels. 'Mr Pontifex, I am afraid, is engaged; but—What name might I mention?'

'Lady Leominster. Mr Pontifex knows me. I am staying with my brother, Sir Pagan Carew, in Bruton Street; and I have come here this morning to consult Mr Pontifex on business.' This was said in the dull mechanical tone of one who repeats a lesson learned by heart, but of which the learner is weary.

Worthy Jupper, the confidential clerk, screwed up his lips and arched his eyebrows, and then coughed. Clerks of the confidential variety are seldom slow in getting to learn the last intelligence as to the more important of their employers' hereditary clients, and Mr Jupper had heard something, and guessed more, as to the singular estrangement between the well-endowed widow of the deceased Marquis and her penniless sister. The mention of Bruton Street and of Sir Pagan's name made it plain to him which of the two it was who craved an audience with his principal.

'If—your Ladyship—would please to come in,' said Mr Jupper desperately, after a moment's hesitation, and perhaps agreeing with the lawyer in the *Bride of Lammermoor*, that nothing was lost by conceding a title of courtesy, 'I will let Mr Pontifex know.—This is the way,' he added, pioneering the visitor through the clerks' office, where pens scratched steadily over paper, and into a neat dull antechamber; and then, after a minute's delay, into the presence of Mr Pontifex, who had risen from his seat at the writing-table, and who came forward with an urbane bow to receive the newcomer.

The girl meekly took the armchair offered her, and threw one glance around the room, with its shelves crammed with law-books, and other shelves

that supported japed deed-boxes, gold-lettered with the names of very distinguished clients indeed. The apartment itself was not ill furnished, with its thick old Turkey carpet and thick red curtains; but it had a gloomy look; and the light poured in in but a subdued fashion, even on that summer's day, through the begrimed windows. Then she turned her blue eyes full on the lawyer's face as he sat opposite, watching her, with something of pity in his gaze.

'You know me, Mr Pontifex, and my history,' she said, in a voice that had strangely lost its music, and that sounded almost harshly in the speaker's ears; 'who better, since you were at Castel Vawr when?'

'When the unfortunate misunderstanding arose,' suggested the attorney smoothly, as he rubbed his hands together.

'Say, rather, when the cruel wrong was done!' flashed out the visitor with a sudden and passionate energy that made the lawyer wince. 'I have come here to-day to ask if you will help me. Will you?'

'Most willingly, if it be in my power—consistently, of course, with my engagements and my duty,' was the guarded answer of Mr Pontifex. He was sorry to have to be guarded in his reply to such a one. A good man was the eminent family solicitor, and a good father. His daughters, at their luxurious Maida Hill villa, would have held as high-treason the notion that any possible papa could be as good and kind and dear as was *their* papa. And he had a very fatherly, sorrowful feeling towards this poor young thing, so beautiful and so misled. But there was something in her bearing that chilled him. What must be—so he thought, in sorrow, not in anger—the heart of one who could persist so steadfastly, so fiercely, it might be said, in a detestable course of self-convicted imposture?

'I am not aware, sir, of the nature of your engagements, or of what your duty may consist,' was the hasty reply. 'Are you in the pay of my enemy?' And as she spoke, she half rose from the great armchair, and her eyes glittered with angry excitement.

Mr Pontifex was struck speechless. Never, in the whole course of his professional career, had he been asked such a question. It took a woman to ask it. It took, also, a woman at bay. Men, at least educated men, are more circumspect. But when a lady is driven out of her narrow conventional vocabulary of lady-like prettinesses and platitudes, she is apt to say things that astonish conventional listeners. The experienced family solicitor paused for a while.

'Of what enemy, my dear young lady, do you speak?' he said gently, when he had had time to reflect.

'Of her who dwells in my dead husband's house, who usurps his honours and his wealth, and thanks to whom I am an outcast, suspected by all,' was the wrathful answer; and this time the girl sprang to her feet, lithe, flushed, almost terrible in her anger.

Nothing could have done her greater harm, in the judgment of so experienced a man of the world as cool, kindly Mr Pontifex, who had had to do, professionally, with bad natures as well as good ones—who had been intrusted with the mission of coaxing rash Lady Mauds, or obstinate Honourable

Floras, into giving up a compromising correspondence with scampish suitors, and who had talked more than one dogged lady's-maid into resignation of 'that di'mond necklace, which I know no more of it than the babe in the nursery,' sooner than prosaic police should be sent for, and horrid commitments be made out for the county jail. He was very much vexed now.

'We had better be calm,' he said, more cheerfully than he felt; 'and indeed, in law-matters—and you are in a lawyer's chambers, recollect—if we are not calm, we are sure to get into the wrong box. We, Pounce and Pontifex, have acted for the Marquis of Leominster—I speak, of course, of successive holders of the title—for seventy years. We act now for the late lord's widow, for his executors, and for the Lady Barbara Montgomery, who is an old and a valued client; but of enemies we know nothing. You, young lady, are certainly not classed in that category by us. And'—here his tone changed to one of persuasion—'it would be one of the happiest days in my life if I could contrive to reconcile'—

'Never!' The word was hissed out rather than spoken. 'I want my own—my rights. There is a law in England; let it do me justice. Then I could forgive her—not till then. I came to you, sir, in hopes that you might aid me; but you will not. Castel Vawr, Leominster House, the great income—all are mine, and yet you will not befriend me.' Her voice sank almost into a wail here; and Mr Pontifex looked at her, as she hid her face between her gloved hands and bowed her fair head, with sincere compassion. All his previous knowledge was at fault here. He had no fathom-line whereby to gauge the depths of a disposition so strange to his worldly lore. That her conduct merited, not sympathy, but punishment, he was certain. And yet it was pity of her. What evil influence could have warped from the path of common honesty a creature so lovely and so innocent! He had heard mention of that Madame de Lalouve whose malignant counsels were deemed to have been the primary cause of the mischief. Mr Pontifex had himself no very good opinion of itinerant countesses of foreign birth and ubiquitous habits. He shook his head as he remembered the little he had heard of Countess Louise.

'I am an old man—old enough to be your father, young lady,' said Mr Pontifex, not without a sort of dignity, such as earnestness and an honest purpose seldom fail to impart; 'and I do assure you that it would be very pleasant to me to see your sister and yourself on friendly terms again; and that I do venture to advise you, as I would advise my own daughter, to give up this hopeless undertaking. I will not, as some lawyers would, set before you as a scarecrow the enormous cost and the tedious length of legal proceedings. Believe me, a long lawsuit is like a long war. It breaks the health, and spoils the nature, and ruins the hopes of many who are innocent of any active share in it. It is even worse for the principals. I know many a rich and titled gentleman who groans over the struggle that pride and prejudice, and the Englishman's stubborn resolve not to be beaten, have made him carry on, amidst demurrers and rebutments, changes of venue, notices of motion, prayers

for new trials, appeals to superior courts, and eventually to the House of Lords. If I were you, my dear young friend, I would take an old man's advice, and accept once more the bright and becoming position in the world for which no one could be more qualified. Your sister's influence would'—

'My sister! I cannot listen with patience, Mr Pontifex, kindly as you mean, to such advice as you would force upon me. I have made up my mind, after much thought and much self-communing, and I am not to be turned aside by fear or by persuasion from my destined path in life. I gather from what you have said, Mr Pontifex, though you have been very good to me, that I must look for help elsewhere. I must seek it, then, where I can. Unhappily, I know very little of London, and still less of the world,' said the visitor, as she rose to go.

There was a sort of civilian chivalry in Mr Pontifex that would not let her leave him thus. He, personally, could not help her. He had indeed the worst opinion of her cause; and besides, he was pledged to the Marchioness of Leominster *de facto*, and to her imperious relative Lady Barbara; but he did not like to see her depart solitary, sad, and forlorn, like some damsel of the mediæval times who could find no champion to break a lance for her in the lists.

'One moment,' said the lawyer. 'I will write a note to some colleagues of ours, if I may say so, with whom we have frequent communication—solicitors of the very highest repute—Messrs Hawke and Heronshaw, of Brick Court, Temple—able men and honourable men.—Excuse me;' and he penned a few lines, inclosed them in an envelope, sealed it, and almost forced it into the little gloved hand that took it timidly.

'You think'—she said hesitatingly.

'I am sure,' resumed the lawyer, with perfect conviction, 'that if Messrs Hawke and Heronshaw can see their way to help you, they will do so. They are free from the ties that hamper ourselves; and if they see the case as I most reluctantly am compelled to see it, you may perhaps be induced to—to think it over again before a decided scandal occurs, which I, as an old well-wisher to the family, should be the first to deplore.—Mr Jupper!'

Escorted by Mr Jupper, the visitor got away from the legal premises of Pounce and Pontifex, and back to her carriage, which presently conveyed her to the chambers of Messrs Hawke and Heronshaw.

#### THE MAN WITH THE MONKEY.

THE Man and the Monkey is not to be confounded with Man and the Ape. The one subject belongs to Mr Darwin and his antagonists; the other belongs to ourselves and to the British public—particularly to the public that congregates at area railings and peeps down from nursery windows. Therefore, though Man and the Monkey is a large subject, we prefer to distinguish our own property jealously as the Man *with* the Monkey. He is commonly a man with dark hair, darkened visage, and a woe-begone smile—a mercenary smile, that appears the moment you look anywhere within five yards of him. The smile is accompanied by mutterings in Mediterranean French

or Italian; and both unite with the monkey in begging for coppers more plainly than plain English.

The man is a shabby individual. He wears a broad soft Savoyard hat; a velvet coat, with what Dickens used to call snail-tracks along the seams; corduroy continuations; and dusty boots, the strongest of the strong. The organ strapped on his back gives him a stooping gait when he walks; and in cold weather, his partner in business travels snugly hidden inside the old velvet coat. It has been facetiously given as an illustration of Darwinism that the organ of the street musician develops to a large size when the player has to rely upon its use alone; and that when he uses something else as well in gaining his livelihood, the disused organ dwindles away. *Vide*, it is said, the musician with a monkey on his barrel-organ and the musician without.

The music is certainly not the chief attraction in the case of our friend with the old velvet coat. The tunes are out of date and the mechanism wheezy. The very dullness of the melodious whine gives the signal for the scramble to the nursery windows when 'a monkey-organ is coming.' The chief attraction is the quieter partner in the business, poor Jacko!—though he is by no means the sleeping partner. The characteristics of the monkey are his flaunting shabbiness, his injured air, and his beseeching looks. How the flaunting shabbiness is put together we are unable to say; it is as indescribable in its way as a Parisian bonnet. We have come across the advertisement of a fashion-book professing to give 'the latest fashions for children and pet dogs at Brighton;' but the 'fashions for monkeys' we have never heard of, nor found any hint as to their laws of dress or the whereabouts of their *costumiers*. Our impression of monkey costume is a cocked-hat, which makes the poor thing doubly unhappy till it is lost in the mud; a dirty red jacket; and a red skirt inclining to black, regulated in shape by the presence of two nimble brown legs and a tail that curls out from under it.

The monkey's injured air, combined with his beseeching looks, are as peculiar to his tribe as the pink-palmed hands, the jacket, or the curl-tipped tail. The performing dogs never have it, nor has Toby; nor can the canaries express it, when they are ready to tell the fortune of any lady or gentleman for a penny. The pair of boxing cats show the nearest approach to it in their natural moments, before they lay back their ears and rear up for another soft-pawed encounter. The injured aspect of the monkey is shrinking and cringing, not indignant. He looks so cunning, that one can hardly pity him; but for all that, he is protesting that he is out of his place; that he feels ill at ease in the jacket of tinsel and scarlet; that area railings make mean climbing for him when he remembers his freaks in his native forests, holding on by the rope-like creepers or by the tails of his brethren. All this he expresses with his eyes, which acquire a complaining and beseeching, if not an ill-tempered look. It may be his human ears of flesh—it may be the redness of his eyes, peering from under hair that makes an unnaturally shaggy fringe of lashes—it may be the ugliness of his nose and mouth, contrasted with his old-man's air of thinking and observing—it may be the clutching mischief-hinting restlessness of his hairy hands—it may be the inconvenient possession of a tail by a creature who wears a jacket—but somehow, as he sits up, chained to his master's organ, it has always struck us that the performing monkey has the air of an impish thing constrained to unsuitable service, and of a conscious ill-favoured creature, quite aware that it is a marvel of ugliness in contrast with the humankind it is made to ape.

When Mr Mayhew was writing his book on *London Labour and London Poor*, he did not forget to interview and question one of the owners of performing monkeys. The man gave information freely in broken English and French, but somewhat timidly, as he had a frightened impression that in the streets of the town the monkey was 'defended' (meaning *défendu*, forbidden), and that his information might get him into trouble. He never did 'play de monkey' in town, he said; he went out 'vare dere is so many donkey up a top at dat village.' He stated that performing monkeys were becoming scarce; there were not a dozen 'wot play in Angletterre,' for the reason that 'monkey is "defended" in the streets.' He himself was making about twelve shillings a week, sometimes three shillings a day, sometimes sixpence, sometimes nothing. He had had his monkey three months, having bought him for thirty-five shillings.

'I did teach a him all he know. I teach a him vid de kindness, do you see. I must look rough for tree or four times, but not to beat him. I mustn't feed him ven I am teaching him. Sometimes I buy a happorth of nuts, to give him after he has done wot I want him to do.'

Then he alluded mournfully to this monkey's accomplished predecessor, who could use the sword, dance, and play the drum and the fiddle. 'Ah! but he don't play de fiddle like de Christian, you know, but like de monkey!' On this prodigy of a monkey he had lavished his care and affection, teaching him to waltz with time and step regulated by jerks of the string, and rewarding him with 'biled raisins.' But just as the *artiste* was conquering the difficulties of the waltz, he indulged in an imprudent meal of red paint, and, as the old epitaphs say, 'physicians were in vain,' and he and his tricks came to an end.

Probably this man, like all his Italian fellow-travellers in London, looked forward to saving up a small sum even out of such scanty earnings and some day going back to Italy. It is true that there are other ambitions—to become a *padrone*, sending out other men with his unmusical instruments hired by the day; or to open a small shop—one of the many dingy low-ceiled shops with more dust than stock-in-trade, such as abound among the London Italian colony. But for the most part, the ice-vendor and the macaroni-maker, the exhibitor of a couple of guinea-pigs or of a monkey, and the doleful organ-grinder—all look to a future, when with a little money saved—very little will be sufficient—they can depart from the land of foreigners and fogs to the land of sunshine, home-language, and *dolce far niente*, and there buying a scrap of ground and sweetly doing nothing, help occasionally in the vintage or the harvest to replenish their purse. How men ever

accomplish this by selling ices at a penny each to the street children, is one of the mysteries of poor folk's economy; but it is certain that many of them do accomplish it, and triumphantly pack their goods in a bundle, and take ship for Italy with the wife of their bosom and the *bambino*. So this also, let us hope, is the destiny of the man with the monkey.

But he has rough uphill work while he is scraping his pence together. His board is meagre; the knife hidden in his belt is his protection against his associates; and he knows they have the same protection against him in the slightest difference of opinion, whether it be about earnings or about some suspicion of cheating in the game—the ancient classic game—of showing up fingers and counting them while they flash. As for his lodging, it is little better than that of his hirsute partner in business. It is sure to be not far from Holborn, somewhere about Hatton Wall or old Saffron Hill. There, within a stone's throw of the spot where once were the strawberry gardens of the Bishop of Ely, lies the abode of the Italian colony, in many courts, circuitous lanes, and dismal little streets, widened here and there with traces of recent demolition of untenable overcrowded houses. Here, far later than the days of strawberry gardens near Holborn Hill, abounded not many years ago residences of such gentlemen as Fagin the Jew and his pupil the Artful Dodger; here were thieves' kitchens; streets impassable by night, and courts and alleys where human beings were piteously crowded together, with crime and poverty and sickness as inevitable miseries to be shared. Those bad old times have passed. The neighbourhood has been thinned and improved, though not yet as transformed as it ought to be; and in the improved state of things, with enough of dismal courts and pent-up lodgings to form a dark background, the poor Italians of London have settled down.

The owner of the monkey belongs to that colony, as we guess from his costume, and from his Italian broken words, or his French of the north Italian frontier. He lives, perhaps, down one of those courts that are entered by a bricked passage like a bottle-neck. He pays a pittance for his share in one of the houses that lodge a numberless community on each side of the long, narrow, flagged court. His share is a very small one. The basement cellars—rooms of these houses, down into which one may look through a grating near the steps, are odorous of greasy cookery and macaroni-making; and countless strings of macaroni hang drying on their wires above the tables and benches that form the only furniture. This is the kitchen, larder, and dining-room, where the monkey *minus* the organ has rehearsed his tricks for a laughing good-tempered crowd, and where the man eats his nightly supper among his fellow-countrymen. Up-stairs there are rooms, floor above floor, each furnished with an array of beds and nothing more; and our Italian, for his daily payment, gets his share of a couch with one or two more of his musical (?) brethren. The musical instruments and the animals are lodged together, either in a room apart or in a shed in the yard at the back. What a strange spectacle this shed must present! Piano-organs and barrel-organs, and all the amazing varieties of

hurdy-gurdy, are come to a dead stop there for a night's peace, like those 'happy families' that under certain conditions can agree in concord in a cage, though any two of their members have never agreed for five minutes elsewhere. There also dwells the monkey in private life, disburdened of the red jacket that held his arms as in a strait-waistcoat, and the skirt that interfered with the brandishing of his tail. There in their cage are the white mice; and perhaps the canaries that tell fortunes, the timid guinea-pigs of the Italian boy, and the noisy performing dogs, are lodged in the shed next door with the amicable assembly of barrel-organs belonging to another padrone.

There is another kind of little creature that is carried out with barrel-organs in London; its lot is thoughtlessly made far worse than that of the monkeys; yet we know its nightly rest is not in the shed, but in the kitchen where the macaroni hangs, where the men smoke by the hearth, where the women gossip in Italian, taking off their flat linen head-dresses, and hugging their babes against skirts and short bodices bright as a rainbow. One subject of our anxiety is the organ-baby. Who that walks through London streets has not seen it lying like an inanimate bundle upon the top of the organ, or a little older, crowing from the basket on the hand-cart at the end of the iron-lunged piano-organ! Where are its brains? Will it grow up deaf, or will it shout, haunted all life long by an atmosphere of noise? Has custom become a second nature to those that hear organs all day? Has the baby, strapped on the organ top, an inherited knack of not caring? Will it grow up to hear and understand and sleep like other children? Or will it grow up at all? We can conceive the monkey going mad, and tearing the organ and scattering the crowd, if he were condemned to lie with his head against it all day? But what can the baby do?

Why there should be a baby with an organ, is a query outside our subject; but we may ask why there should be a monkey? Some ignorant, ugly, awkward, cunning, tricksome likeness to humankind there is in this poor creature, that sits up with eager hands and listening, fleshy ears. The likeness, the cunning, and the freaks, are the reason of his servitude; and it is beyond doubt that he pleases the spectators up in the nursery, however much his presence may annoy the older spectators that put money in his hairy hand to have him taken away. Just in the same manner, though the mechanical barrel music may be the pest of one neighbourhood, there are others where it must not be denied, because it is a boon, and where, as the only music of the poor, it sets the girls whirling on the pavement, and the children dancing an infantile war-dance for glee. We believe, despite the complaints of men of nerve and brain, and despite laws enacted, the man with the organ has a firm foothold, because thousands of small households are enlivened by him—instead of being driven to depths of melancholy and despair, as more cultured ears may be. But the man with the monkey has not a firm foothold; he and the monkey are slipping away. He is following the long train of revelry that has played out its day. He is in the wake of the Maypoles and



the man with the dancing bear; and the trained monkey will follow the performing bear, first becoming, like bruin, an astounding rarity, and then an extinct species, to be found no more in civilised life.

## OUR NEW MANAGER.

### IN FOUR CHAPTERS.—CHAPTER II.

THERE was excitement in the warehouses, the counting-house, and the whole of the realms under the sway of Messrs More, Keelby, & Co.; for on the day following the incidents with which our last chapter closed, it was understood that the new partner—the capitalist—would enter upon the management. None of the clerks had seen him save old Mr Scamler, the head-clerk, who had met him at Mr More's to give certain explanations as to the working of the business; so the staff were all agog to catch the first glimpse of the new emperor.

He was punctual, arriving exactly at the time indicated; but it so happened that Phil had gone round to the docks at the moment, so he did not see the triumphal procession—as one of his comrades called it—through the offices. His curiosity, however, if he felt any, was not long unsatisfied; for through the speaking-tube which led from the private room to the counting-house, there came a message desiring Mr Hartleby to attend.

The young man, who had expected some such notice in connection with his visit to the docks, went promptly in, and found all three of the old firm present, with a strange gentleman, and old Mr Scamler in attendance. 'This is Mr Philip Hartleby, one of the best of our young people,' said Mr More to the strange gentleman. Then addressing Phil, he continued: 'As this will be the last time I shall be in this room, on business at anyrate, Mr Hartleby, I feel great pleasure in introducing you to Mr Pike, and telling him that he will find in you a valuable servant.'

At this, of course Phil bowed to the strange gentleman, and would have said a few words fitting to the occasion, but that he had been utterly taken aback by what he saw immediately upon entering the room. The new partner, Mr Pike, was the horseman who had held the 'angry parle' with the tramp on the previous evening, and who had been within an ace of forcing a quarrel upon Phil himself.

Mr Pike, who raised his head and bowed in return, met the eye of the young clerk for an instant in full; it was but for an instant, and the dark stern features of the stranger were as unmoved as so much marble, yet an ominous feeling possessed Phil, and he could not help fearing that he was recognised, as certainly as he had recognised Mr Pike. Yet there was a good deal to make this unlikely, for he had been on foot in the shade, and his voice had only once or twice been heard by the horseman; while the latter was far more conspicuous from being mounted and sitting in the direct line of the gaslight, and from having spoken a good deal. Although Phil stole several glances at the new

partner during the interview, he could not detect the slightest approach to an expression of remembrance; nevertheless, he quitted the apartment with a very uncomfortable feeling, and a hearty regret that he should have stopped to listen to a road-side quarrel on the previous evening.

Of course there was a great deal of talk in the counting-house about the new master during the day; and the general opinion was that he would be a tight hand, a screw, a tartar, with divers other uncomplimentary epithets all tending to the same description of character. A few days passed on, during which Phil saw or heard nothing to make him suppose that he had been recognised by Mr Pike, so the ominous feeling referred to gradually faded, though it did not quite disappear.

The night for the concert arrived; and it need hardly be said that Phil was early in attendance at the Lower Down Road in order to convoy Miss Marian and her sisters—for two younger members of the family were to assist in the choruses—to the schoolroom. For this concert was by no means a grand affair, being purely a local, even a parochial display. Not but that it was of gigantic importance to the 'artists' engaged, all of whom, including Miss Darnett, had been nervous and excited for some weeks preceding. Marian had tried very hard to persuade Mrs Vallens to come and hear the music; but although that lady took a great interest in her young friend's success, and was pleased to hear every little detail in connection with the concert, her recluse-like habit could not be broken through, and she would not give the promise.

The description of the concert may be comprised in a line—it was highly successful. The *Sandmouth Gazette* managed to fill nearly a column and a half with it, criticising—or rather eulogising without criticism—every singer and player in every effort; while the *Sandmouth Chronicle*, having a quarrel with the chief promoter of the concert, was content to give exactly six and a half lines to the affair.

To the delight of Phil, the honours of the evening were unquestionably carried off by Marian. Her good looks and attractive manner may have had something to do with this—too often it is so; but in any case, she was the star of the night. A less pleasurable feature was the presence of Mr Pike, who, to the surprise of Phil, entered with a group of the most influential patrons of the concert. He seemed to be greatly interested in the various items, taking a lead also in the applause which was so liberally awarded to Miss Darnett.

After the performance, the clergyman who presided introduced Mr Pike and another stranger to one or two of the principal artists—of course including Miss Darnett—mentioning at the same time that Mr Pike was a gentleman who had just become a resident in his parish, and being an enthusiastic admirer of music, wished to have an opportunity of saying how much he had been delighted by the admirable execution—Our readers can supply the remainder of the worthy pastor's harangue.

The compliments which Mr Pike uttered so easily and fluently, confused Miss Darnett, who blushed, but did not look any the less pretty while doing so.

'Had I dreamed of hearing anything half so charming,' continued Mr Pike, 'I should certainly have come provided with the orthodox bouquet to throw to the prima-donna; but I must make up for the omission on a future occasion.'

More embarrassed than before, Marian at last retreated from her prominent position, and was then surprised to learn that the gentleman who had been so complimentary was no other than Philip's new chief.

Much conversation during the homeward walk was devoted to this incident, which had to be retold and respeculated upon for the benefit of Mr and Mrs Darnett; the good lady, who prided herself upon her far-seeing powers, expressing her belief that a better thing for Philip and Marian could not have occurred. 'And mark my words,' concluded the good lady; 'you will both often look back to this night—very often. Now, remember what I say.'

Philip tried to feel the same confidence in this fortunate omen, but was scarcely successful. Perhaps it was the unpleasant character of his introduction to Mr Pike which influenced him, but he felt an immovable dislike to that gentleman, a dislike which was almost akin to dread. He disliked his voice, his face, his whiskers, and above all, his eyes. Yet he tried to share Mrs Darnett's sanguine views of the future, in which her daughter at anyrate was an unhesitating believer.

Some days passed without any incident of great note. The staff of Messrs More, Keelby, & Co. felt even thus early that the anticipations which had heralded the approach of Mr Pike were likely to be fully realised, and that the business would receive an impetus from his coming such as it never before had felt. There was an immediate and ceaseless activity in every department, and rumours were rife of huge contracts being undertaken in quarters hitherto quite outside their sphere of operation.

Among others who were affected by the energy of the new partner was Mr Darnett, who was invited by letter to call at the office on a certain morning; and he did so, although with some trepidation and doubt as to what his visit might result in; for Mr Darnett was 'on the books' of the firm to an extent which, although small to them, was serious to himself; and owing to the unfortunate issue of one or two pieces of business he had lately undertaken, he had not preserved that regularity in his payments which is expected in mercantile transactions. So he was filled with depressing anticipations, which, however, were all agreeably dispelled.

His interview was with Mr Pike alone; and he found the new manager to be quick, decided, imperative indeed, in his manner; and the first half-dozen sentences he uttered showed to Mr Darnett that he was thoroughly *au courant* with all the bearings of that customer's account. This did not appear like a favourable commencement; but, to the surprise and delight of Mr Darnett, the conversation took an unlooked-for turn, and Mr Pike pointed out how much better it would be if he made more extensive purchases and went in for larger operations. Not only would he buy cheaper, but such petty losses as he had lately met with—Darnett winced as

the other accurately catalogued these—would only affect the percentage of profit, not, as now, determine success or failure.

Mr Darnett began, rather stammeringly, to explain that he should much prefer to do thus, but—

'But, you mean to say,' interrupted Mr Pike, 'that this requires either capital or credit. Of course it does; and as More, Keelby, & Co. intend to throw off the sleepy old-fashioned way in which their business has hitherto been conducted, I can offer you, on our best terms, all the credit you are likely to require. So, let us see how you can go to work, Mr Darnett, and you shall not find our house backward in assisting you.'

There was of course a little more conversation after this, but all to the same effect; and Darnett went home elevated to the seventh heaven of delight, and filled with visions of such a fairyland as an elderly struggling man of business would be likely to picture.

This delight was certainly reflected and heightened in the minds of his wife and eldest daughter; and when the head of the house had driven out to visit a village where he believed some business was to be done—he was a timber-dealer, whose chief connection was among small builders—mother and daughter sat down to some needle-work in the front-parlour, in order to have a long and undisturbed chat over the great announcement of the day. Naturally, much of what they said was in praise of the new partner, his generosity, his delightful manner; how fortunate it was that he had come into the firm, and what an excellent thing it would be for Philip.

In this way the theme was sustained and varied, until Marian, chancing to look up, uttered an exclamation which attracted her mother's attention; and on looking up in turn, Mrs Darnett also uttered an ejaculation; for there was Mr Pike himself in the act of dismounting from his horse at the garden-gate, bearing in his hand a most lovely bouquet, the very sight of which at once coloured Marian's cheeks and brow with the brightest scarlet, and caused a meaning look to pass between her mother and herself.

The expected knock was heard; the servant—'How lucky that Betsy has got her afternoon frock on,' whispered Mrs Darnett, who shuddered to think in what a dress their only servitor might have confronted the magnate—the servant, we say, announced Mr Pike, and that gentleman entered. He had taken a seat, apologised for his intrusion, and put Mrs Darnett entirely at her ease within one minute of his entrance.

'I daresay,' he continued, 'that Miss Darnett has considered me, ever since the night of the concert, as the most faithless of mortals.—Is it not so?'

'I—I did not—I am sure,' faltered out Miss Marian, quite confused by this sudden appeal; 'I never'—

'Why! Did I not promise to make up for my remissness in not coming provided with a bouquet?' said he. 'Well, here is the best I could get; for having to wake up the seven sleepers, or rather seventy, at our drowsy place, and having to be in a dozen different departments at once, all day long, I really have not had time to see about so small, yet so essential a matter until to-day.' So saying, he handed to Marian

the 'lovely bouquet' already admired. The quick eyes of both his listeners saw that it was clasped by an elegant silver holder.

After one or two ejaculations of surprise and pleasure from both, Marian managed to say: 'But this is far too beautiful and—and—costly for me! Only great singers ought to have such offerings, Mr Pike. I ought to refuse it, I am sure.'

'Well, if you think it too much as a gift, the only thing left is for you to purchase it, Miss Darnett,' continued the visitor; 'and that can be done at once, by your singing me another song. I had not sufficient courage to ask such a thing at first; but I confess that I took advantage of my first leisure hour to ride over in the hope of hearing one.'

This was more overpowering still; yet it was impossible to refuse anything to so potent and generous a patron; so Marian sang, nervously at first, Mr Pike offering to do his best as accompanist. His best appeared to be about as good as it was possible to be, for he was a master of the instrument, and then he showed that he was an admirable singer. In a splendid baritone voice he gave songs from the operas of which Marian had only read, so delighting her, that when she owned she had never heard an opera, he declared that it was cruelly to allow her to be pleased with such a paltry imitation, and that he would see that Mrs Darnett had tickets sent her every night during the approaching visit to Sandsmouth of a great opera troupe. After this promise, he departed, resisting Mrs Darnett's invitation to partake of a cup of tea—at which refusal that lady, hospitable as she really was, was secretly rejoiced, distrusting her resources upon so short a notice—and leaving his hostess and her daughter bewildered and delighted beyond all precedent.

This pleasing excitement had not subsided by the time Phil paid his customary evening visit, when all particulars had to be rehearsed to him, and all sorts of variations rung in praise of the new partner. Phil was much astonished at hearing all this.

'He does not seem that sort of man to me,' was his comment. 'I cannot say that he has done anything at all harsh or out of the way in the warehouse, yet I am quite sure there is not a man in the place who likes him now, or who does not feel afraid of him.'

'Well, Phil, dear, you at anyrate will never have cause to feel afraid of him,' said Marian, logically following up her impressions; 'for if he takes such interest in my father, and shows such kindness to my mother and myself, he will be sure to think a great deal more of you, who are such a help to him. I should not wonder if he made you head-clerk, when old Mr Scamler retires.'

Phil shook his head, as though he scarcely indorsed this summary; and then, after a moment's hesitation said: 'I never told you, Marian, of a quarrel which I saw one evening between a gentleman and a tramp, and in which, indeed, I may almost say I took a part.'

'No; of course you never did!' said the young lady. 'What was it, Phil?'

In reply, Mr Hartleby gave a detailed account of the adventure, in which Marian was greatly

interested; and when she heard of the identification of Mr Pike with the horseman, her look changed to a very serious one.

'I hope he does not remember you, Phil!' she exclaimed. 'I should not think he did—should you?'

'I should not think so,' returned Philip oracularly; 'only, that whatever ought not to happen, and whatever you don't want to happen, is exactly what always does happen. Yet I must own that he has never dropped a word which could lead me to think he recollects me; and but for something in his eyes when I first met them—in the office, I mean—I should feel pretty certain that he had forgotten me. But only think, Marian!—I saw that very tramp to-night, as I was coming here.'

'I hope he will not get into any more quarrels, and involve you,' said Marian. 'Why does he not go away somewhere else? He ought to do so, you know, if he is a tramp.'

'I think it is because he does not know where else to go,' replied Phil, with a laugh. 'I saw him at the circus, which has recently come to Sandsmouth, and which is likely to stay there a long time, I hear. I did not know him; I merely saw there was a shabby man, who was leaning against the woodwork by the side of the building and smoking a pipe; but as I passed, the man nodded and said: "Hope you are well, sir?" Of course I looked closer at him then, and recollected where I had seen him. He told me that he had got work at the circus. I was not particularly glad to hear this, for I have a kind of instinct which makes me wish him quite out of my way. To my surprise, he asked me how I liked my new "governor," showing that he knew who Mr Pike was; and then I remembered some odd words he had used on the night of the quarrel, which I paid no attention to at the time, but which I now see had the same meaning. I laughed, and advised him to keep out of Mr Pike's way. He laughed too, but in a very unpleasant style, and said: "You bet I shall. I have been doing it for a good while; and it will be just as well for him to keep out of mine."'

'What could he mean by his strange language about Mr Pike?' said Marian, going straight to the point which had impressed her most. 'Do you think he can be mad? Ought we not to tell Mr Pike about him?'

'No; I do not think he is mad in the least,' replied Hartleby; 'and from what little I have seen of Mr Pike, I doubt if that gentleman would approve of my zeal in repeating such a conversation. But we will not talk of my friend the tramp any longer.—What do you think I heard to-day, Marian?'

To this query Miss Darnett was obliged to return a reply declaring that she could not guess; and Phil then told her that a rumour of Mr Scamler's speedy retirement was rife in the office, and, as a matter of course, speculations as to the changes consequent thereon were rife also. As these speculations included the promotion of Mr Philip Hartleby, and as his promotion involved a larger salary, and as a larger salary would justify his immediate marriage, it will at once be seen that the fresh line of conversation suggested was sufficiently engrossing in its interest to banish all recollection of minor subjects, and

to supply an ample stock of materials for castle-building, with visions of fairyland in general, for the remainder of the walk, on which, according to custom, they now started.

### THE MOON'S ROTATION.

BY PROFESSOR PIAZZI SMITH, ASTRONOMER-ROYAL FOR SCOTLAND.

OF all the permanent heavenly orbs, there is none that is so near us, is seen under so large an angle—or, if you prefer it, of so large an apparent size—and is at the same time so gently illuminated as to permit men to gaze at it uninterruptedly, and is so abundantly marked with diverse figurings of brighter and darker parts all over its surface, as the Moon.

The well-known changes in general form of the luminous part of the disc or sphere, known as the *phases* of the moon, arising from the different manner in which it is illumined by the sun in the course of the month as seen by us on the earth, and resulting in the popular names of New Moon, First Quarter, Full Moon, Third Quarter, and New Moon again—slightly interfere with the regular observations of the minuter markings and details of the surface above alluded to. But the phase-effects are easily allowed for; and then there comes out this conclusion, or statement, in which all observers both past and present agree—namely, that the moon always turns the same face of itself towards the earth, during the whole time of every monthly revolution she makes around it.\* Hence also comes the equally undisputed fact, that mankind is acquainted with only one side of the moon, and never will, in the ordinary course of nature, know what markings or features, say of sea or land, plains or mountains, there may be on the other side.

How this effect comes about, and by what physical means it is kept up, not only throughout the revolution of a single lunar month, but for tens of thousands of such periods, in fact throughout all history—is an interesting branch in the physical astronomy of modern times; but not for us to enter into now, for we have a preliminary question given to us as our present task—namely, with regard to the general and indubitably observed fact above alluded to; and which question may be formulated thus: What are we to say or believe as to 'the rotation of the moon,' after having ascertained that it keeps one face steadily towards the earth, during the whole of a monthly revolution around it?

The answer ought not to be difficult; and indeed so early an authority as Berosus, a Chaldean astronomer in the fourth century before

Christ, is recorded to have come to the true judgment; for he announced that the moon rotates once on its axis in the same time that it revolves once round the earth; and that opinion has been held by every practical astronomer, mathematician, and scientist since the time at least of Francis Bacon.

But these three titles, or professions, by no means include all men, even of education; for some are occasionally violent on the other side. 'It is curious,' said one of our latest and most brilliant of mathematical philosophers, Clerk Maxwell, 'to see how speculators are led by their neglect of the exact sciences, to put themselves in opposition to them, when they have not the slightest point of contact with their systems.' And it has always been so. Whence we find that in the sixth century A.D., a logician named Simplicius must needs come out to oppose Berosus and the astronomers by declaring that the observed fact of the moon always keeping the same face to the earth during a revolution around it, showed that it, the moon, did not rotate on an axis at all.

Now, if Simplicius had meant that he was only speaking with regard to what may be termed 'apparent astronomy,' he would have been excusable enough, so far as that mere temporary stepping-stone of apparent, in place of real and absolute, astronomy is concerned. But, unhappily, he did not mean that. He wished, on the contrary, to expose what he believed to be an outrageous blunder of the astronomers at the very beginning of their own science; and to have the honour himself of teaching the world his own discovery, by a truer interpretation of the observed and conceded facts of observation, that the moon in space does not rotate, or turn on an axis at all.

It is strange, wrote the astronomer Arago, in the beginning of the century, that this class of men cannot see, that if the moon did *not* turn on its axis, and *did* keep one part of its face always pointed to one particular direction in space, that we, on the earth, would then necessarily behold one side of the moon in one half of its monthly revolution round the earth, and the other side of the moon, through the remaining half. But that class of men, who exist still, are obstinate in not seeing or understanding the case in this way, and hence they rush into the open to declare astronomers mad.

Thus, at the Bath meeting of the British Association for the Advancement of Science there was quite a noisy and abusive irruption of these men, pronouncing that the idea of the moon rotating on an axis, when it always presented the same face to the earth, was folly. Although, too, they were admirably answered then by the learned Master of Trinity, Dr Whewell, they came out again soon after at the Royal Astronomical Society in London. One of the party, too, produced there an absurd child's toy, hoping to make his opponents look ridiculous. For he had therein set up a doll dressed as a military general in the centre, and put a figure of a soldier, with his face to the general, on the end of a lath revolving around that centre; when, of course, the soldier kept his face obediently towards his chief during the whole of a revolution around him. And then said party showed that the

\* In an article, 'Is the Sun Wasting?' in a recent number of this *Journal* (No. 995), the words were used: 'That the moon does not rotate is manifest from the fact that it always presents the same face to the earth.' This has led to some misconception, which would have been avoided had we said, 'That the moon does not apparently rotate,' &c.



soldier having been firmly fixed by two nails to the lath, could not possibly have turned on an axis at all. 'No, not with regard to the lath,' said a Cambridge man; 'but as you continue to revolve him by means of the lath, he rotates round my finger,' as he held that down over the little soldier's head from above and from outside all the doll machinery; or as from a region representing infinite space, where directions, as of the cardinal points, are everything.

In other words, if one celestial body revolves round another, keeping the same face always to it, the former *must* change its faces at the same time with respect to circumambient outside space; and in such space, which is astronomical space, a body rotates on an axis, when it changes its surface directions continually towards any fixed point in such outside and infinitely removed circumference; equally, too, whether the said body be in general movement through space or not; that is, revolving round another, or not. Whence we may draw the happy final conclusion for the rising and learning generation, that all the known text-books on astronomy by astronomers in every country are perfectly correct when they state, in spite of logicians of the school of Simplicius, that the moon rotates on its axis once in each of its revolutions round the earth.

## HOW PIRATE GOW WAS CAPTURED.

A STORY TOLD MANY YEARS AGO.

Yes, sir; I am, as you say, of a good old age—ninety-two come August, and hale and hearty for my years. I've gone through a deal of tear and wear in my time, sir, served my king and country by land and sea under the immortal Nelson, and remember Trafalgar as though it were yesterday.—Do I come of a long-lived race? Well, father he was drowned when a young man; but grandfather lived to be ninety-eight.—Did grandfather know anything about Gow the Pirate? That he did; wasn't he servant to Mr James Fea of Eday, who captured the buccaneer? I wish I had a crown for every time old grand-dad told me the story of the capture.—Will I tell you the story? Gladly, your honour; but if you'll allow me, I've got the whole account as written by grandfather himself; here it is, and you can read it for yourself:

I was born in 1703, in a little cothouse in the island of Eday, in the Orkneys. We were fisher-folks, my father being a tenant of Mr Fea, who owned part of the island. The young laird—Mr James, we called him—was fond of fishing; and when living at Carrick House—his father's residence in Eday—used often to go out in the boat with father and me. I dearly loved Mr James. He was a gentleman every inch of him; open-handed and handsome, brave as a lion, with the sunniest smile you ever saw. Such was the young master ere his troubles came upon him. It was a proud day for me when he asked if I should care to be his servant. Of course I cared. I remember telling him I would willingly follow

him to the world's end. He laughed in his pleasant way, remarking that at present all he required of me was to follow him to Carrick House. Those were happy days! I loved my master dearly, and small blame to me, for he paid liberally, and, what I valued far more, talked to me sometimes as though I were a friend, rather than a servant.

The master liked society, and usually spent the winter months in Kirkwall and Stromness, often riding from one town to the other, fair weather or foul, when a ball was afoot; and back again next day to another dance at the place he had left. In each of these places Mr James had rooms of his own, and a spare wardrobe.

Mr James had never been in love—seriously, I mean; though of course he had had his passing fancies, like most young gentlemen. But the time drew near when he was to know what real love meant. It was the Yule of 1724; and my master had been invited to a ball at Stromness, given by a gentleman whose daughter had just returned from France. You see, the young ladies of those days were educated in French convents, and were sent home with quite grand airs.

I remember Mr James remarking, as we rode together through the blinding snow, scarce able to keep the track, so dark was the afternoon—'Ned,' says he, with a laugh, 'there's a saying, the Mounseers are half-monkey half-tiger; but I hope they have made Miss Hilda neither the one nor the other. She was such a dear little thing before she crossed the Channel!'

I said I believed Miss Hilda was far too sweet a young lady to be spoiled by the Mounseers. The master laughed, clapped spurs to his horse; and away we went, dashing past farmhouses where the good folks held high festival; until presently we were clattering through the streets of Stromness, and had pulled up at the little hostelry.

I don't think Mr James ever showed to greater advantage than he did that evening, entering the ballroom with the air of a lord. He looked so noble, his eyes the colour of the blue ribbon confining the golden love-locks which strayed over his velvet coat, on the breast of which bloomed the white rose, emblem of the exiled king. With sword on thigh and head uncovered, he walked to the end of the room to greet the host and hostess, and renew his acquaintance with Miss Hilda. From the door where I had posted myself I could see the master's every movement—how, when his glance rested on the young lady, he started, blushed, and then such a light came into his eyes, as made me feel a sort of pain at the heart, which I believe was a foreboding of the evil days to come. The next thing I saw was my young master leading out Miss Hilda to the minuet. Quite a buzz of admiration arose as they paced through the courtly dance; she, fair as a lily, dainty and sweet; he, grand and handsome, like the sea-kings whose blood flowed in his veins.

Mr James had intended returning to Kirkwall the day after the ball; but he lingered for many weeks in Stromness; and wherever Miss Hilda

went, there my master was sure to be; they had so much in common—beauty, youth, and health, besides an ardent attachment to the Stuarts; for the lady also wore the white rose.

Time passed, and my master's passion for this lovely young lady continued to increase. But though she liked his society and accepted his homage, she did not altogether return his love. Mr James was blind; he could not see that the love was mostly all on his side; yet he shrank from putting his fate to the test.—All this I gathered from my dear master's behaviour.

One day there came a letter from his lawyer, begging him to ride at once to Kirkwall to settle some business matters. He stood twisting the letter about in his hands, and I heard him mutter: 'I will act the coward no longer!' Then observing me: 'Ha, Ned, lad, are you there? 'Tis a case of mount and ride; so bring the horses to the door within the hour;' and as he spoke, he strode from the room, and I saw him pass down the street in the direction of Miss Hilda's home.

It was with a heavy heart that I saddled the horses and brought them round, for I expected to see Mr James returning the picture of despair. But no; in a few minutes he returned all smiles, joked me about my lugubrious face, sprung into the saddle, and cantered gaily down the street. I followed, wondering what had wrought this sudden change in his behaviour; but the mystery was solved when I saw Miss Hilda at her window kissing her hand to my gallant master, who doffed his hat to the lady with such a glad light in his eyes as I had not seen for many a day.

So we fared merrily to Kirkwall, Mr James singing a gay French song. Presently, he laughed, and said: 'Well, Sir Knight of the Rueful Countenance, how goes it with you now? Ah, I'm pleased to see a smile on your grim visage, the rather that I have pleasant news for you. I'm the happiest man in Orkney, Ned. Miss Hilda has promised to be my wife. I am not worthy of her; but, please God, I shall try my best to become a better man.' And as if thinking on the past and the future, he fell into a reverie, which lasted till we rode into Kirkwall town.

'Happy is the wooing that isn't long adooing,' so runs the proverb; and had the master had his way, Miss Hilda would have been the young mistress of Carrick House before midsummer. But she always put off the wedding on various pretexts.

In the autumn, my master was obliged to go to Caithness on business; and I, as usual, accompanied him. We were only absent a fortnight; but on our return to Stromness found great changes had taken place in the interval. The war-ship *Revenge* lay in the harbour; her crew paraded the streets or thronged the taverns; and Mr James found Miss Hilda surrounded by a group of officers, conspicuous amongst whom was the commander of the *Revenge*, Captain Gow.\*

Had you searched the world over, you could not have found a greater contrast to my master than the captain. The former was fair, with a countenance open as the day; the latter, dark, black-bearded, and swarthy. He was indeed

handsome after a fashion, and always dressed richly, usually wearing a crimson velvet coat laced with gold, and the finest ruffles. But there was something uncanny about the man; he always appeared to be acting a part. Probably, Mr James felt this, for he gave him but a curt welcome when introduced by Miss Hilda. (It was the fashion at this time to rave about the handsome commander of the *Revenge*—my master alone denied him his friendship.) And Miss Hilda? She seemed glamourised by the bold sea-rover, yet she was kind as ever to her betrothed. He could not shut his eyes, however, to the fact of her evident preference for Captain Gow, with whom he would have picked a quarrel, had not the lady, divining the thought, made him promise to keep the peace for her dear sake.

I knew Mr James was racking his brains to devise some plan to get rid of Gow, and it occurred to me I might help him. Hitherto, I had kept aloof from the crew of the *Revenge*; but now I resolved to mix with them, and try it—when the drink was in and the wit out—I could not hear something which might serve my master; for I hardly believed Captain Gow's statement that he was a post-captain in His Majesty's navy. My investigations were successful. I learned from one of the crew, in a fit of drunken confidence, that his commander was what he called a Free Lance, a sort of sea Ishmael.

I made haste to impart this information to my master, who exclaimed: 'Ah! a felon, is he?' adding: 'But he shall not be condemned without evidence. I shall write to a friend in London, and ask if Gow's name appears in the Navy List.'

The letter was despatched; and in the meantime Mr James bore as well as he could the rover's openly expressed admiration for his betrothed.

My master received an answer to his letter in due course. No such name as Gow, wrote his correspondent, appeared in the Navy List; but all Europe was ringing with tales of the atrocities perpetrated on the high seas by one John Gow, a pirate commanding a ship called the *Revenge*.

Mr James was greatly agitated after reading the letter. He paced the floor hurriedly, and presently remarking that the room was close, snatched up his hat and quitted the house. After leaving the inn, he hurried to the Lookout, an eminence about half a mile from Stromness, where he came unexpectedly upon Miss Hilda and Gow. The lady's hand was clasped by the pirate, who whispered words of love into the willing ears of his companion. Stung to the quick, my master confronted the lovers, poured a torrent of reproaches on the head of the faithless lady, and in no measured terms informed her of the character and calling of the man she had admitted to such intimacy.

Miss Hilda refused to credit the statement, upbraiding him for defaming the name of a better man than himself. Mr James dared the pirate to deny the accusation; but Gow only laughed mockingly. He did not consider it necessary to vindicate his honour to a jealous lovesick boy, he said. Maddened by the taunt, my master drew his rapier, calling upon the pirate to defend himself, which he was not slow to do. They crossed swords; but here Miss Hilda interposed, commanding them to forbear. She spoke

\* For another episode in the career of Gow, see *Chambers's Journal*, No. 990.

bitterly to Mr James—said she should never forgive the words he had spoken; their engagement was at an end, and her troth would be plighted to the man he had so shamefully traduced. Then she told him to begone; and he went, after telling his rival to look to himself when next they met.

I was in the stable when my master appeared at the door looking pale and disturbed.

'Saddle the horses, Ned—quick!' said he; 'we must be in Kirkwall within two hours.'

Mr James called a meeting of gentlemen at Kirkwall, and laid before them the letter he had received. There was great consternation; but nobody seemed disposed to assume the offensive. They would watch the course of events and do nothing rashly. Meantime, Mr Fea might devise some plan for the capture of the buccaneers, and he was always sure of their warmest co-operation in any feasible scheme, &c. My master laughed bitterly when he related the result of the meeting to me. 'It's the old story, Ned,' said he; 'nobody wishes to bell the cat; but mark me, I will!'

We went to Eday next day. The master immediately assembled the tenants, apprised them of the danger they ran of being harried out of house and holding, inviting them to muster daily at Carriek House for instruction in sword-exercise, so that they might not be quite defenceless in the event of an invasion by the pirates. Spies were despatched to Stromness to watch Gow's movements, and report accordingly. Meantime the young laird of Eday laboured night and day perfecting the country-folk in the use of their weapons.

News came thick and fast. Gow had thrown off the mask, and was marauding far and wide. Why he spared us, I know not; perhaps Miss Hilda had something to say to it.

For some days there had been no news. The master could not rest, he was in the saddle all day, galloping over the island, or sweeping the offing with his glass in search of a sail. I think even then the conviction was strong upon him that sooner or later he should meet his hated rival.

It was a day never to be forgotten, when, one foggy Saturday morning, the tenants came hurrying in from all parts of the island with the astounding intelligence that the *Revenge* was ashore not very far from Carriek House and breaking up rapidly. The disaster had occurred owing to the stubbornness of Captain Gow. This we learned later. An Eday lad who had shipped aboard the *Revenge* at Stromness warned him of the danger—the rocks on which the vessel struck were sunken ones—but he laughed him to scorn. He had steered his ship for the last twenty years, weathering dangers of all sorts, and was not going to stir an inch from his course because a puling land-lubber prated of sunken shoals. Such were the words of the boaster; and five minutes after, the vessel struck.

Our young master received the news of the shipwreck with apparent coolness. Addressing the farmers and fishermen, he impressed upon them the need of prompt action, courage, and above all, obedience to orders. He then divided his men into three bodies—one, consisting of a dozen stout fellows, armed with muskets, garrisoned Carriek House, the second of some fifty lads, commanded by a smart young fisherman,

received instructions to patrol the island and arrest in the king's name all stragglers from the wreck. Our master himself commanded the third and strongest body of men, who were well armed, tolerably drilled, and in high spirits at the prospect of a fight. I had the honour of being in the front rank. Mounting his horse, Mr James put himself at the head of his followers, gave the word 'Quick, march!' and away we went at a swinging pace.

Arrived upon the scene of the disaster, we found the utmost confusion prevailing. Boats plied between the ship and shore, carrying off provisions and valuables from the vessel, for the *Revenge* was rapidly breaking up. Captain Gow stood on the beach directing operations. Round him were grouped his officers and the majority of the crew, all armed. At our approach, they raised a shout and levelled their muskets, but our young master rode forward fearlessly, calling upon Gow to surrender in the king's name. The pirate laughed scornfully; he would surrender to no man, he said. At this moment, a shot from one of the sailors' muskets brought our leader's horse to the ground. Disentangling himself from the dying animal, he waved his sword, shouting 'Charge!' We exchanged shots with the pirates, then, led by the young laird, rushed upon them. After firing our muskets, most of us clubbed them and began dealing blows right and left. Our gallant leader fought his way to where Gow stood, and again summoned him to surrender. For answer, his antagonist snapped a pistol in his face, which happily missed fire, and then attacked him with his sword. But at the instant a stray shot struck the pirate's up-lifted arm, causing it to drop powerless by his side. The sailors and officers perceiving the condition of their chief, threw down their arms in token of submission; and Gow, recognising the folly of further resistance, sullenly surrendered himself. We formed a hollow square; the prisoners were placed inside, and in this order marched to Carriek House, where they were accommodated with lodgings in the barn—their Chief being locked up in the strong-room. Before night, all the stragglers from the wreck were brought in by the patrols, and sent to join their friends in the barn. Sentries were posted round the building, to prevent escape; and all through that Saturday night and Sunday the smiths laboured incessantly forging fetters for the pirates. On Monday morning, boats were got ready to convey them to Kirkwall; and linked together two by two, they were marched down to the shore and placed on board the boats. Their chief frowned darkly when he passed my master on the beach, but he did not speak, and preserved a moody silence all the way to Kirkwall.

After lying for some time in the county jail, the pirates were sent to London to stand their trial; and Mr James and I followed to give evidence. Some of the crew were pardoned, also one of the lieutenants; but Gow was sentenced to be hanged.

I went to see the execution. The pirate appeared on the scaffold dressed in a scarlet coat laced with gold, looking so gallant, that the people cheered him. As he glanced around, his eye rested on me, and he scowled. With a mocking smile, he resigned himself to the

executioner. I covered my face with my hands, for my nerves gave way, and I never looked up till I heard the crowd dispersing.

Two days after the execution, as I sauntered along the Strand, a closely veiled lady approached, put a letter into my hand, and before I could speak, disappeared among the crowd. I recognised her even in her disguise; it was poor Miss Hilda. The letter was addressed to Mr James. Later, I learned how the poor lady had come to London, hoping to see her lover. She was too late; he had been executed the day before her arrival. It is said he left a letter in which he begged her to pray for the repose of his soul; and that, in compliance with his last wish, she proceeded to France, where she entered a convent and took the veil. Whether such was her fate, I know not; for from the time I saw her in the Strand, she disappeared utterly, and I could never learn any tidings of her.

I blame Miss Hilda's letter for a very serious illness contracted by Mr James at this time. He fell ill very soon after reading it, and in his delirium raved about her cruelty in calling him a murderer. I suppose the poor lady, distracted at the dreadful fate of her lover, and consequently seeing things in a distorted light, had accused my master of being his destroyer.

I was glad when Mr James recovered sufficiently to return to Orkney. His native breezes quite restored his strength; but he never entirely recovered his spirits. Misfortune dogged his footsteps—bad harvests and interminable lawsuits wasted his patrimony, and made an old man of him before his time. After some years, he married a sweet, gentle, little lady, who worshipped him; children were born to them; and had it not been for pecuniary anxieties, his life would have been a very happy one.

My story is nearly done. Mr James was out in the 'Forty-five,' and I shared with him the glories of the campaign, ay, and the defeats too. I weep when I think of Culloden, and the gallant young Prince wandering homeless and unfed, hunted like a wild beast in the land of his forefathers.

I lived to see my dear master laid in the grave, and his estates pass into the hands of strangers. Then I went to Portsmouth, to live with my boy Charley; for Orkney was never the same to me after Mr James was gone.

\* \* \* \* \*

Well, your honour, you've got through a tough yarn. You see grandfather was a bit of a scholar, read plays and such-like, and he picked his words more like a gentleman than a common man. I often heard him tell it by word of mouth; and he never ended but with tears in his eyes; for my grandfather was as tender as he was true.

#### STRAW AS FUEL.

In Russia, Wallachia, and many other districts, straw is so abundant, corn being so largely grown, that it is a perfect drug in the market, and has to be burnt in large stacks, merely to get rid of it. There are now engines made, more particularly the portable steam-engines used largely for farming purposes, which are so arranged that straw can be used as fuel for generating steam,

without the employment of either wood or coal. The arrangement that is found most favourable is the engine on Head and Schemioth's patent—constructed by Messrs Ransomes, Head, and Jefferies, Ipswich—in which the straw is automatically fed into the furnace by means of toothed rollers, very similar in action to a chaff-cutting machine. To enable our readers to further understand the advantages of such an invention, we should add that in addition to straw, almost every other description of vegetable refuse may be burnt; for instance, cotton and maize stalks, gorse, jungle-grass, &c.; and by simply removing the patent feeding apparatus, the furnace can also be fired with coal and wood in the ordinary manner. It is hardly necessary to point out that by means of this invention, steam-power can now be introduced into distant countries, which, on account of the absence of coal or other suitable fuel, have been hitherto debarred from its many advantages.

#### THE IDEAL WIFE.

SOMEWHERE in the world must be  
She that I have prayed to see,  
She that Love assigns to me.

Somewhere Love, her lord and king,  
Over her is scattering  
Fragrance from his purple wing.

By the brink of summer streams  
I have dreamed delicious dreams;  
What I will, my sweet one seems.

In the sheen of autumn skies  
I have pictured sunny eyes,  
Till the thought too quickly dies.

When the winter fire burns low,  
Lovely faces come and go  
As the dying ashes glow.

'Tis her voice I hear so oft  
In the music low and soft  
That the western breezes waft.

Tell her, Love, that years fly fast,  
Bid her come to me at last,  
Ere her golden days are past.

Shall we ever, ever meet?  
Shall I find in thee, my sweet,  
Visions true and life complete?

Whisper low to Love apart,  
Whisper, darling, where thou art,  
Perfect wife and noble heart.

J. WILLIAMS.

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